

FIG. 1.

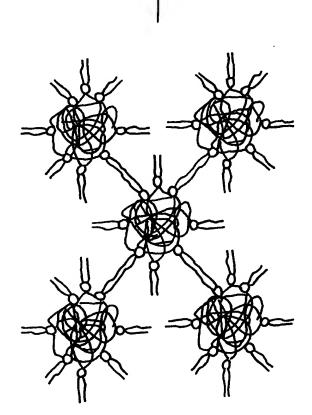


Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
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AGGREGATION PRECIPITATION



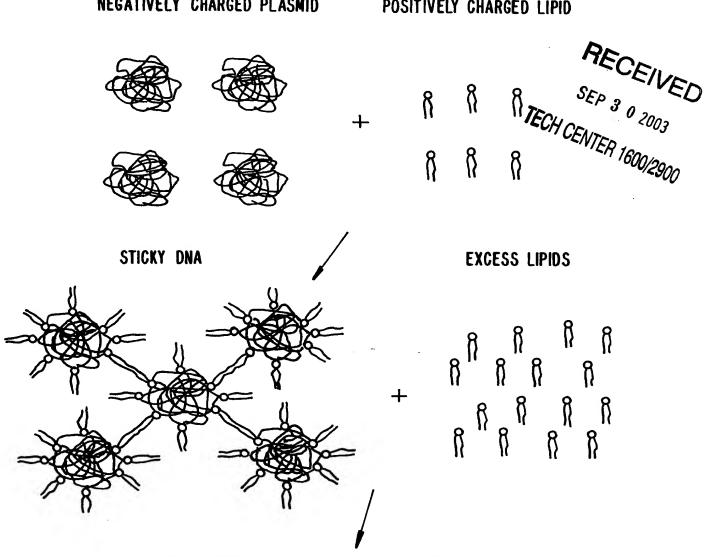
STICKY DNA

Application No.: 09/431,594 Applicant: Jeffery J. Wheeler et al. Title: LIPID-NUCLEIC ACID PARTICLES PREPARED VIA A HYDROPHOBIC LIPID-NUCLEIC ACID COMPLEX INTERMEDIATE AND USE FOR GENE TRANSFER Sheet 3 of 35

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POSITIVELY CHARGED LIPID



PLASMID ENCAPSULATED WITHIN A LIPID BILAYER

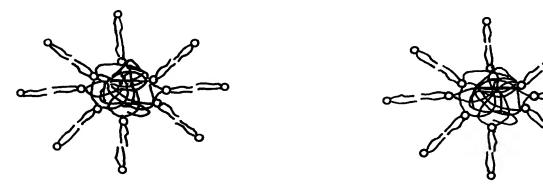
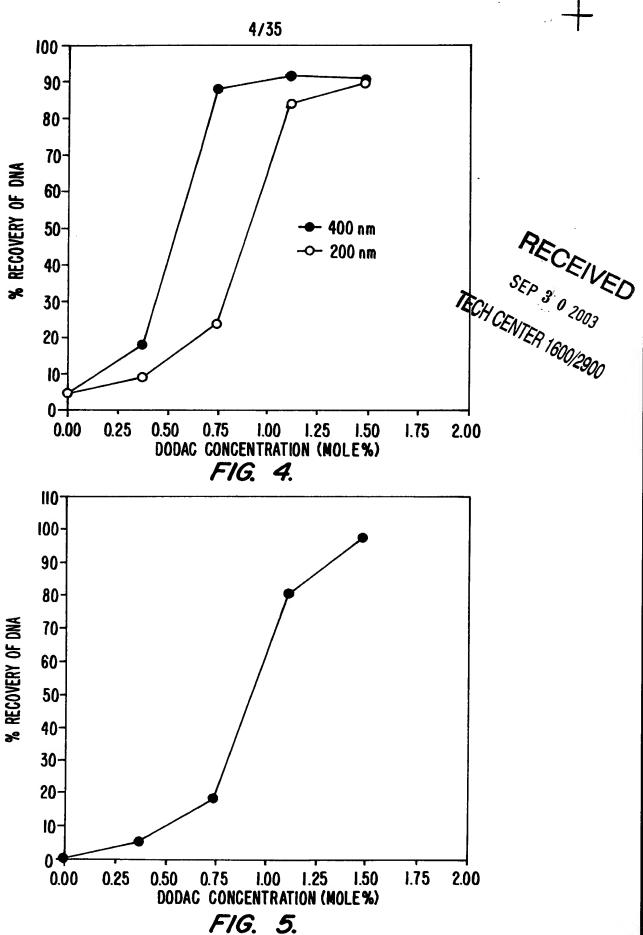


FIG. 3.

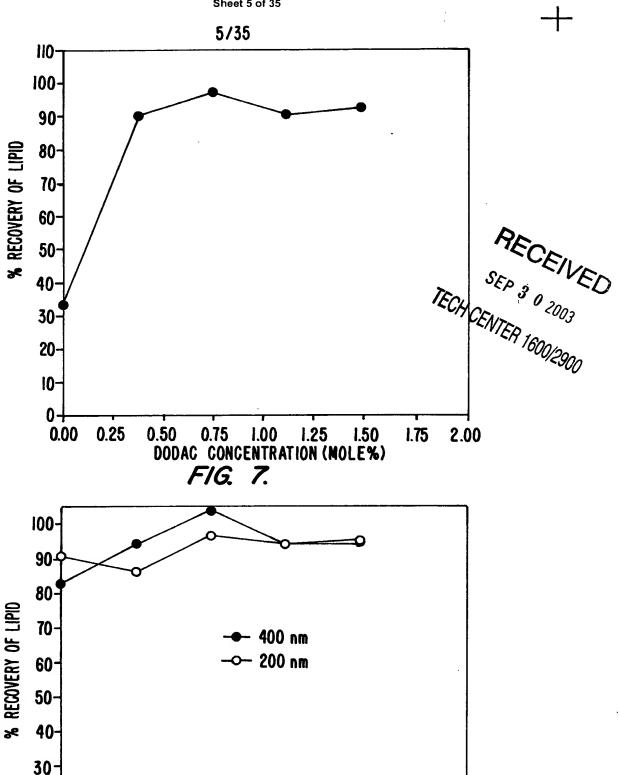
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Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
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20-

10

0.00

0.25

0.50

0.75

FIG. 6.

1.00

DODAC CONCENTRATION (MOLE%)

1.25

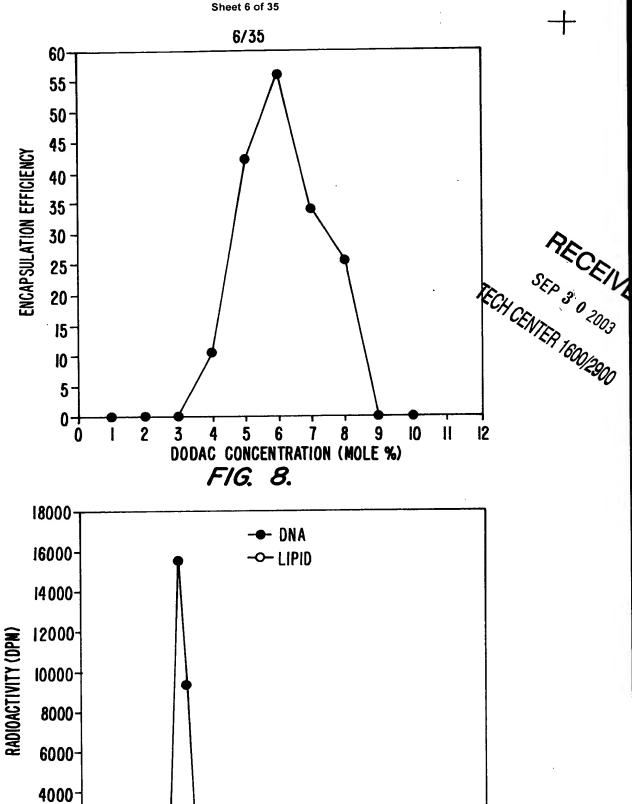
1.50

1.75

2.00

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20 30

FIG. 10.

FRACTION

40

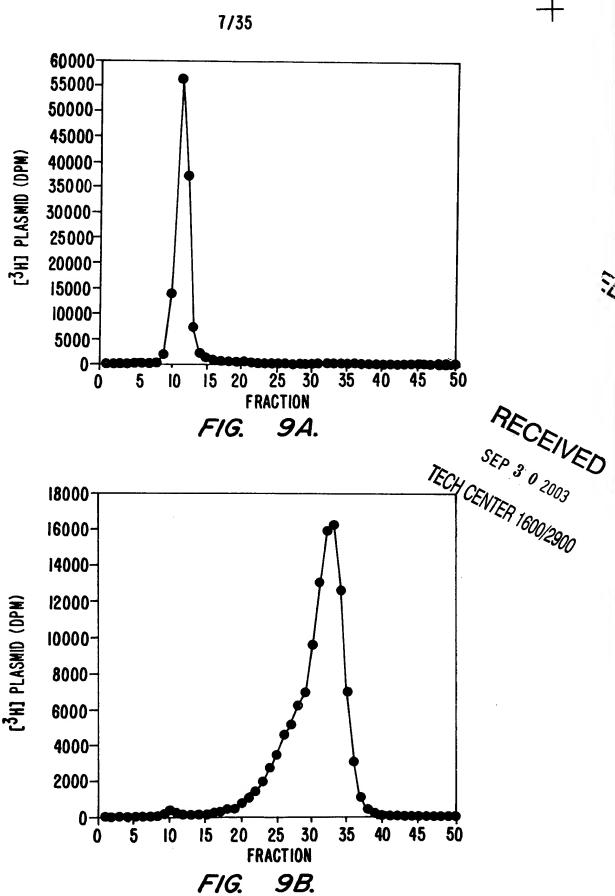
50



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0+\ 0 SEP 2 9 7033 PV

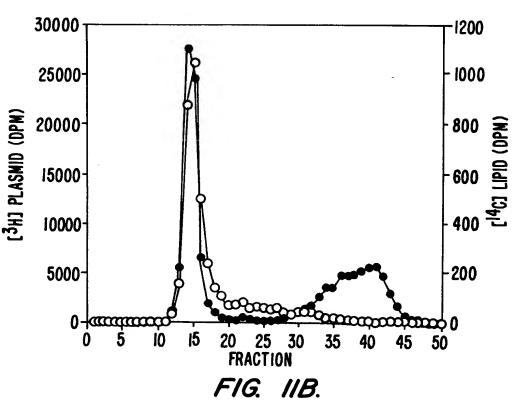
Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
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HYDROPHOBIC LIPID-NUCLEIC ACID COMPLEX INTERMEDIATE AND USE FOR GENE TRANSFER Sheet 8 of 35 8/35 [3H] PLASMID (DPM) RECEIVED TOOS SEP 3 0 2003 poodpoods0 25 30 Fraction FIG. IIA. 25000°

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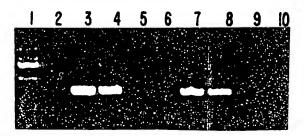


FIG. 12A.

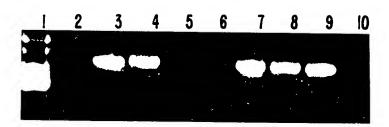
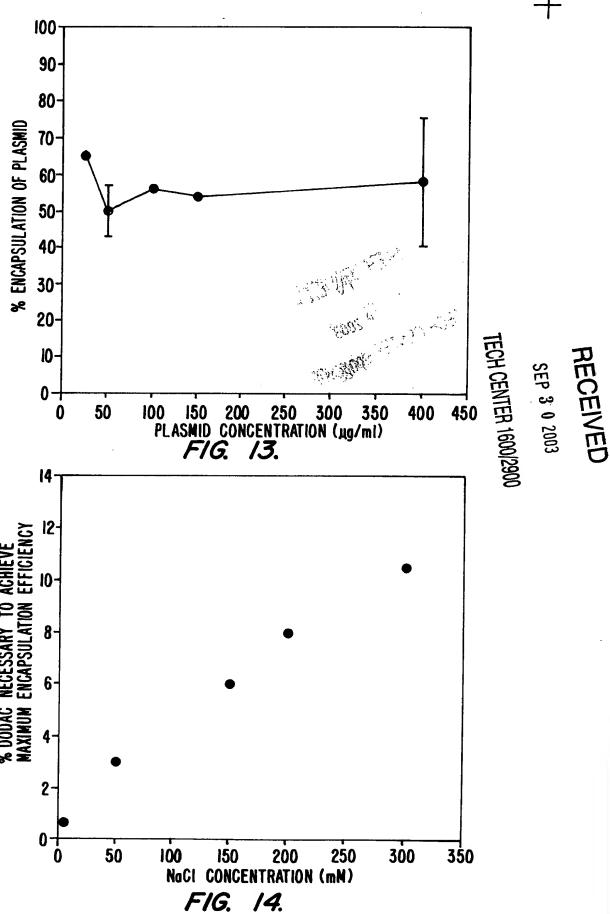


FIG. 12B.

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SEP 3 0 2003
SEP 3 0 2003 50 100 20 (VESICLES) SIZE (nm) FIG. 15. REL. VOL.

FIG. 16.

(VESICLES) SIZE (nm)



 f_{i}

Application No.: 09/431,594
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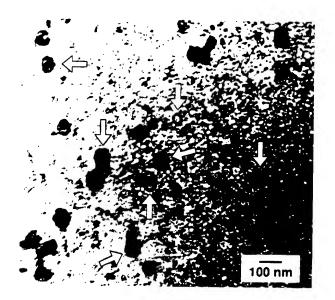


FIG. 17A.

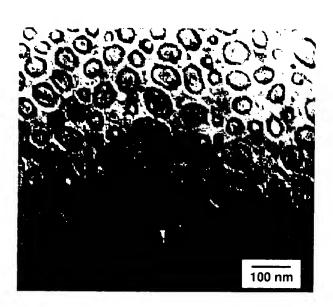


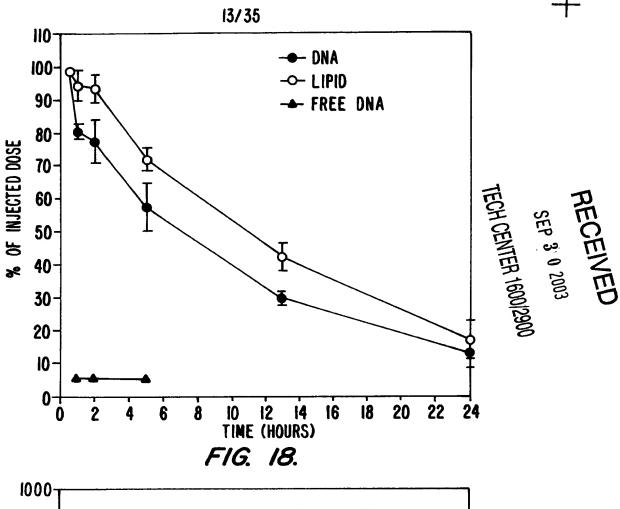
FIG. 17B.

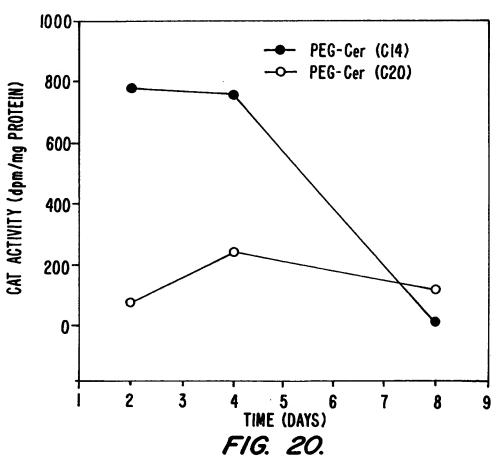


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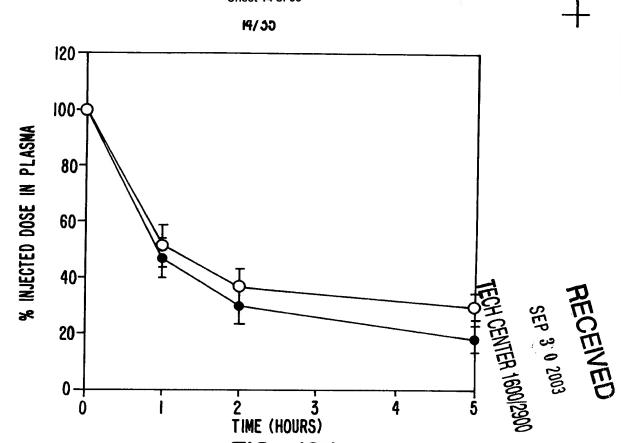
Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
Title: LIPID-NUCLEIC ACID PARTICLES PREPARED VIA A
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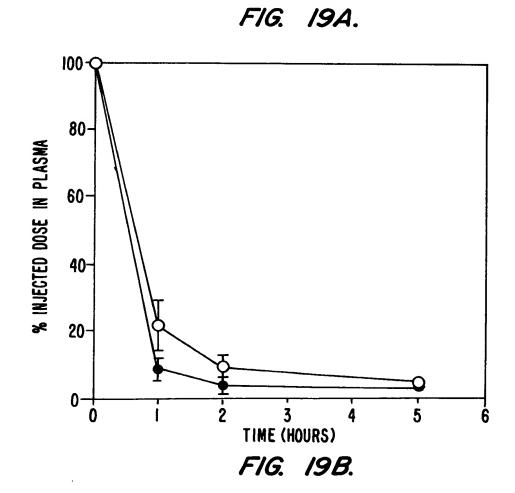




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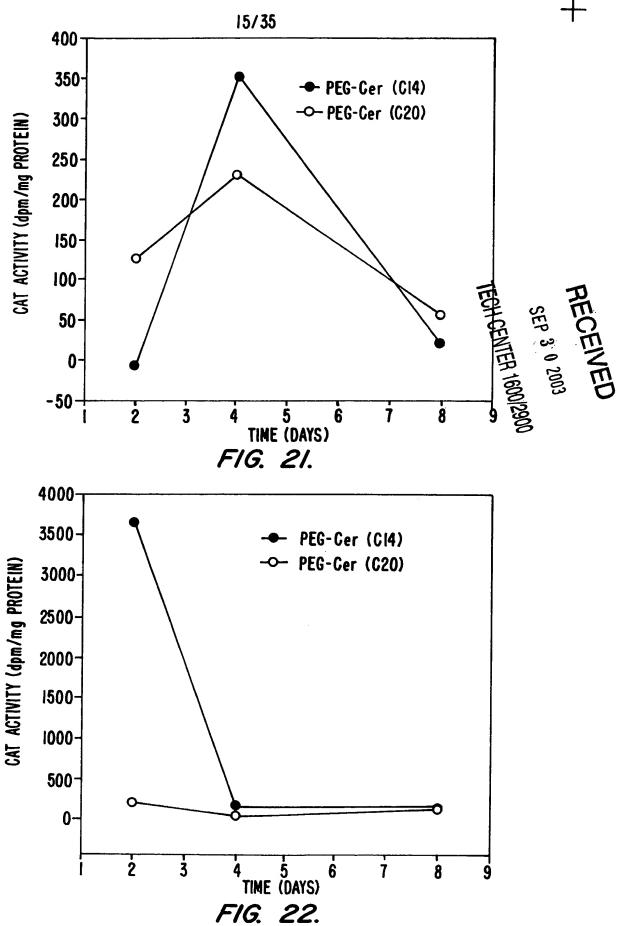
Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
Title: LIPID-NUCLEIC ACID PARTICLES PREPARED VIA A
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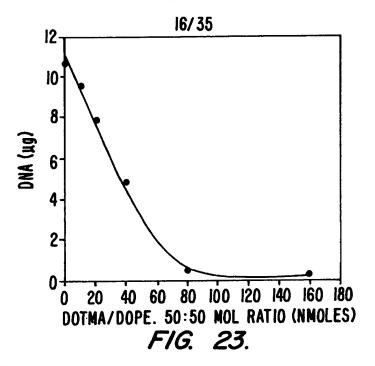
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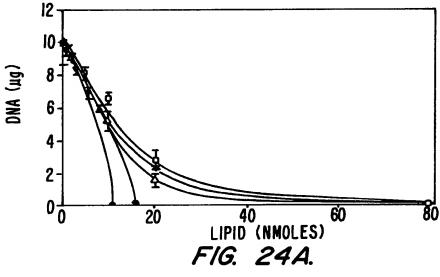
Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
Title: LIPID-NUCLEIC ACID PARTICLES PREPARED VIA A
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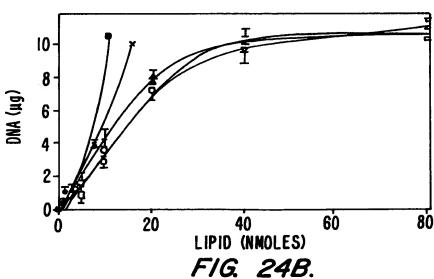


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Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
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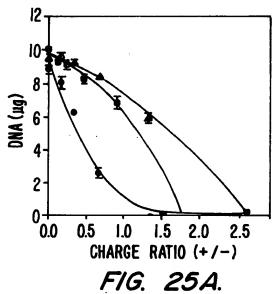


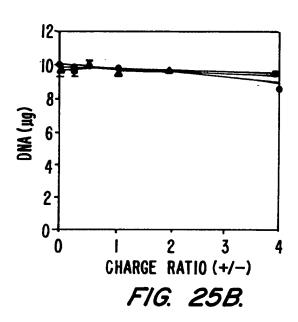
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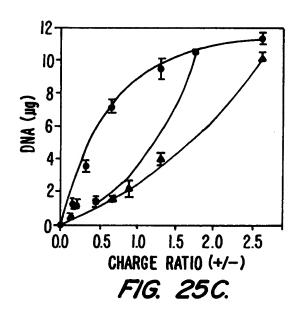
Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
Title: LIPID-NUCLEIC ACID PARTICLES PREPARED VIA A
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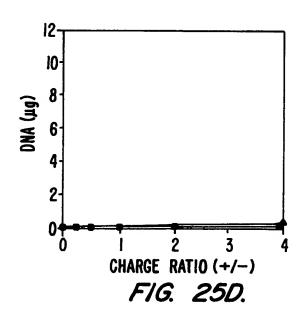
17/35

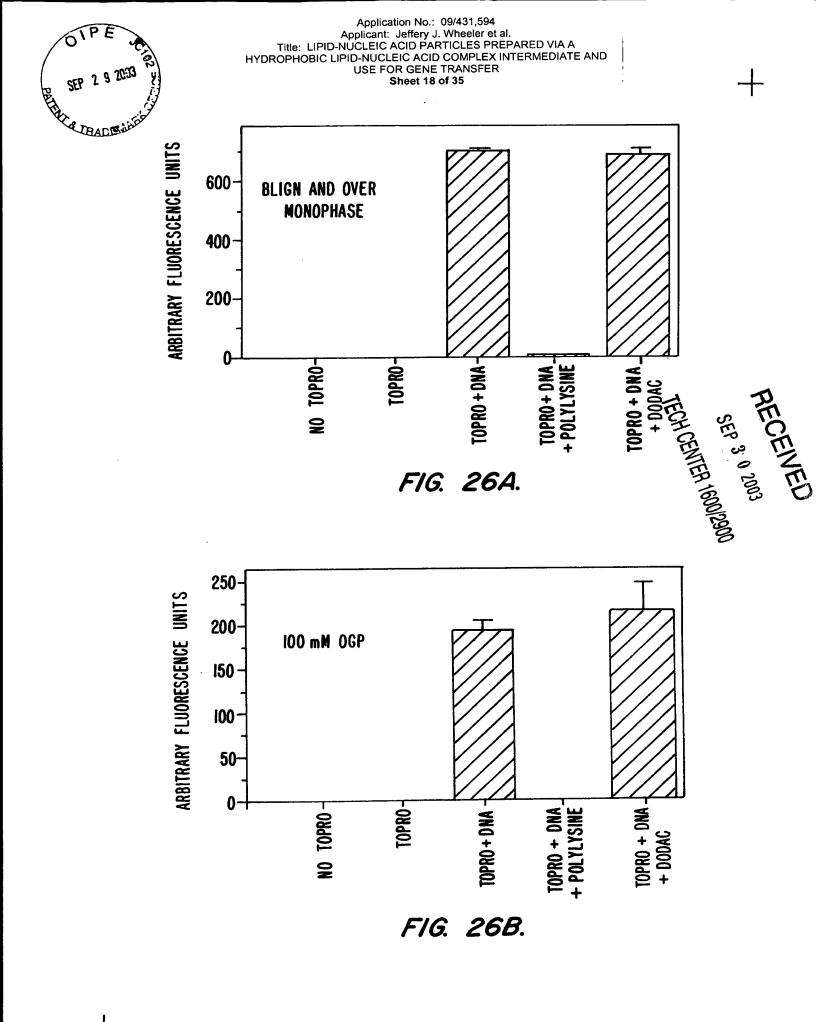






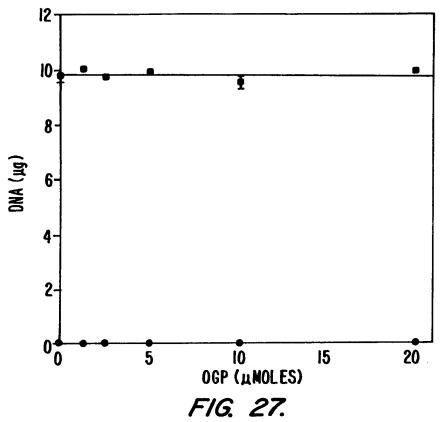






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HYDROPHOBIC LIPID-NUCLEIC ACID COMPLEX INTERMEDIATE AND USE FOR GENE TRANSFER **Sheet 19 of 35**



12

10

8

6.

4

2.

0 0.0

1.0

1.5

NaCl (MMOLES)

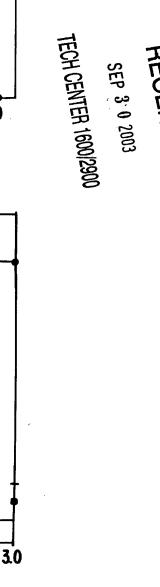
FIG. 28.

2.0

2.5

0.5

DNA (ug)



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FIG. 29A.

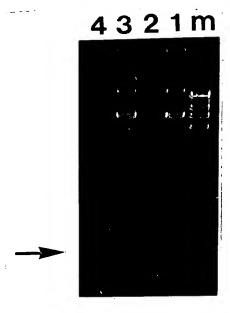


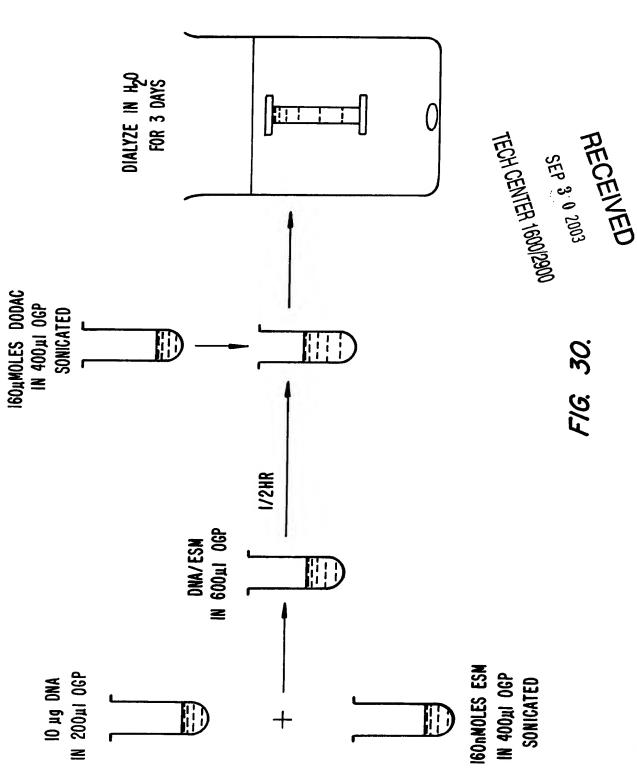
FIG. 29B.

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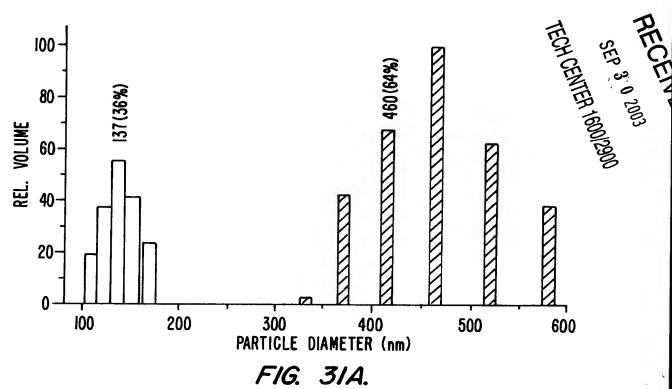
21/35

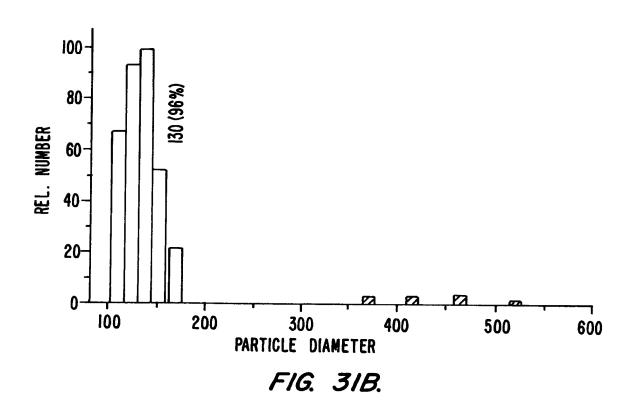




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DNA RECEIVED
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TECH CENTER 1800/2907 DNA/OGP DNA/TOPRO DNA/OGP-TOPRO DNA/DODAC/ESM+TOPRO +/- 4:1 DNA/DODAC/ESM+TOPRO-OGP 4:1 DNA/DODAC/DOPE+TOPRO 4:1 DNA/DODAC/DOPE+TOPRO+OGP 4:1 DNA/DODAC/DOPE-TOPRO 8:1 DNA/DODAC/DOPE+TOPRO+OGP 8:1

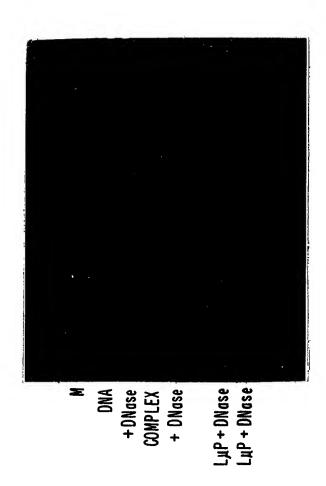
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FIG. 32.



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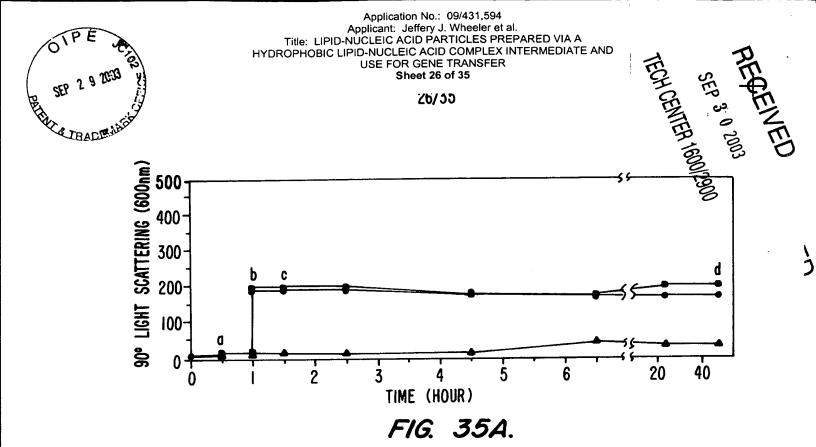
F/G. 33.

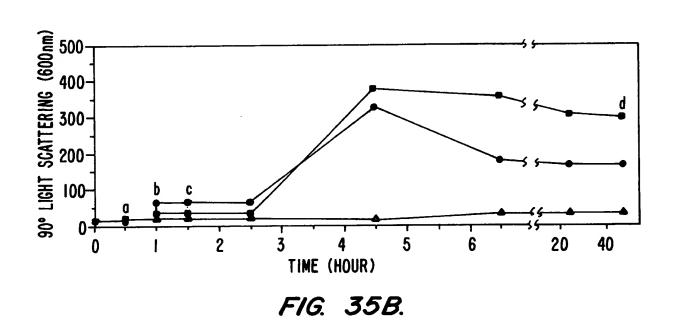
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Application No.: 09/431,594 Application 140.. 63/401,354

Applicant: Jeffery J. Wheeler et al.

Title: LIPID-NUCLEIC ACID PARTICLES PREPARED VIA A
HYDROPHOBIC LIPID-NUCLEIC ACID COMPLEX INTERMEDIATE AND USE FOR GENE TRANSFER Sheet 25 of 35 25/35 RECEIVED 3003 SEP 3 0 2003 4:1 CHARGE RATIO (+/-) *F/G* 34 <u>:</u> 10 ng DNA/mi CHO TRANSFECTION ON 96 WELL PLATE 0.25µg (25µl) 0.5µg (50µl) DNA / DODAC/ESM 0.125 µg (12ul) ☲ 1.0 2.57 2.0 1.5-0.5 B-GAL ENZYME ACTIVITY (MU)

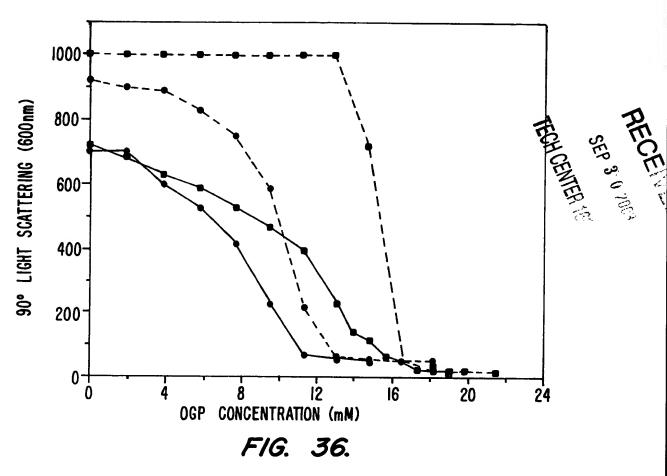


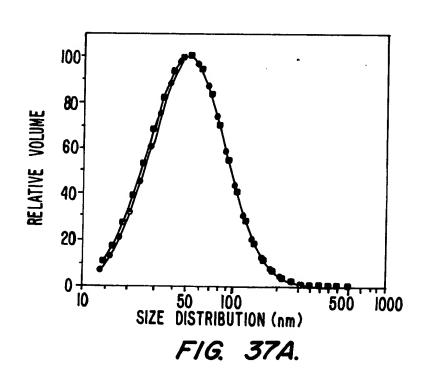


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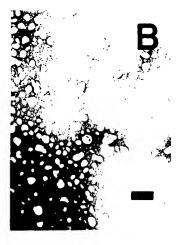


FIG. 37B.



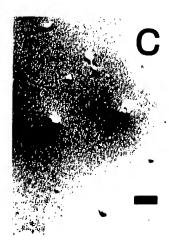


FIG. 37C.

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FIG. 38A.

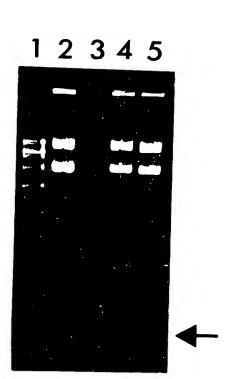


FIG. 38B.

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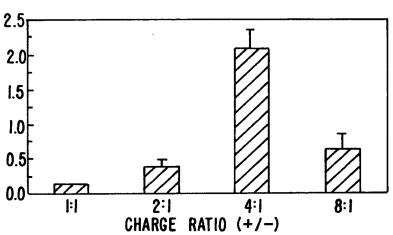
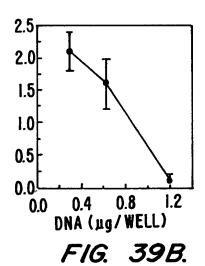
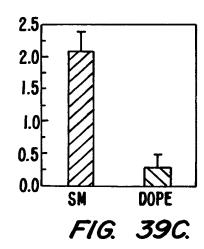


FIG. 39A.



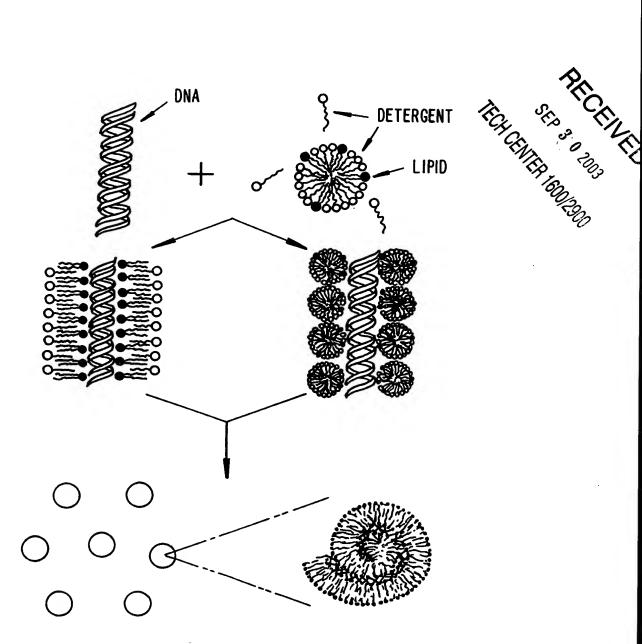


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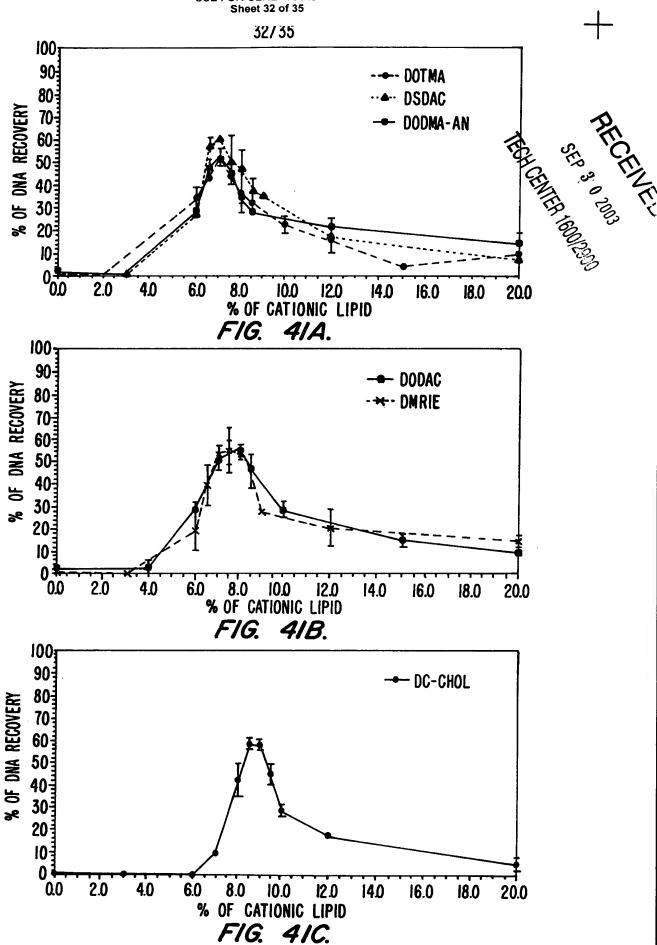


DNA-LIPID PARTICLE FORMATION

FIG. 40.

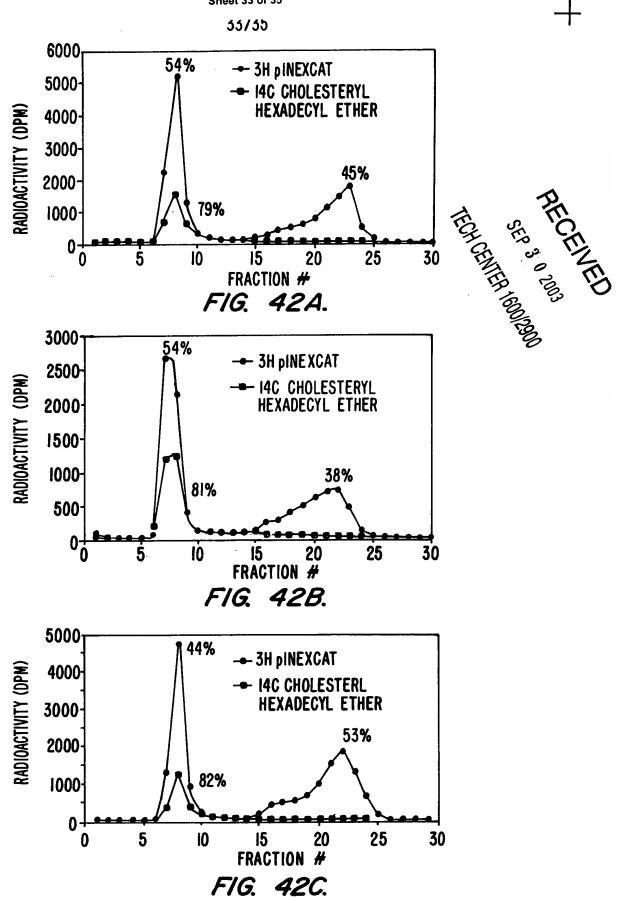
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Applicant: Jeffery J. Wheeler et al.
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HYDROPHOBIC LIPID-NUCLEIC ACID COMPLEX INTERMEDIATE AND
USE FOR GENE TRANSFER



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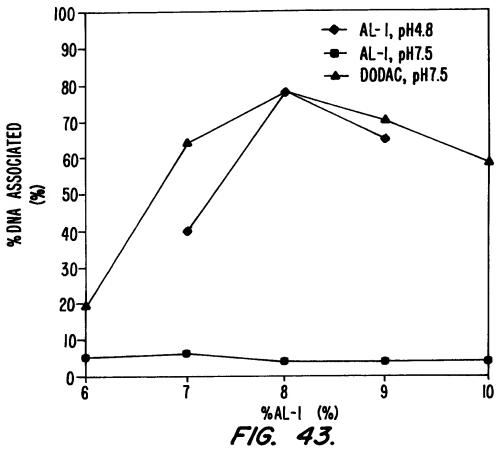
Application No.: 09/431,594
Applicant: Jeffery J. Wheeler et al.
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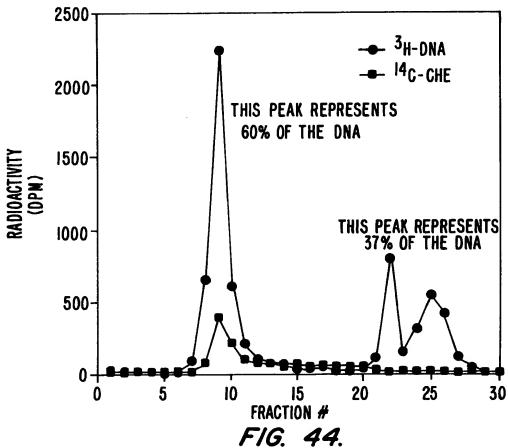
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RECHCENTER 1800/2900 2000-THIS PEAK REPRESENTS 100% OF THE DNA 1500 1000-500 0-I5 FRACTION # 20 25 30 5 10 0 FIG. 45. 100 90 80 → 3H pINEXCAT 70 - I4C CHOLESTERYL HEXADECYL 60 **ETHER** 50 40 30 20 10 50.0 5.0 10.0 15.0 20.0 25.0 30.0 35D 40.0 45.0 0.0 % OF PEG-CER CI4 FIG. 46.

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